

REMARKS/ARGUMENTS

Claims 44, 48, 49 and 60-68 are currently pending, of which Claims 44, 61 and 65 are the independent claims. Claims 1-43, 45-47 and 50-59 were previously canceled. Claims 44, 61 and 65 are amended herein for further clarification. Support for the claim amendments presented herein is found at least at page 7, lines 12-17; page 12, lines 10-11; and page 28, lines 20-21 of the instant application. No new claims are added herein or newly cancelled herein. No new matter is believed to have been introduced to the application by this paper. Reconsideration and further examination are respectfully requested.

Claim Rejections

Claims 65-68 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Applicants submit that the claim amendments presented herein to independent Claim 65 render moot these rejections.

Claim Rejections

Claims 44, 61 and 65 are rejected under 35 U.S.C. §103(a) as being unpatentable over Shaw, et al. (U.S. Patent No. 5,801,067) (hereinafter, “Shaw”) in view of Coico, et al. (U.S. Patent No. 6,278,193) (hereinafter, “Coico”). Claims 48-49, 60, 62-64 and 66-68 are rejected under 35 U.S.C. §103(a) as being unpatentable over Shaw and Coico in view of Flip Chip Ball Grid Array (FPBGA) Package Family (hereinafter, “Flip Chip”). Claim 65 is rejected under 35 U.S.C. §103(a) as being unpatentable over Shaw and Coico in view of Hikita, et al. (U.S. Patent No. 6,476,499) (hereinafter, “Hikita”). Claims 66-68 are rejected under 35 U.S.C. §103(a) as being unpatentable over Shaw and Coico in view of Flip Chip. Reconsideration and withdrawal of these claim rejections are respectfully requested.

Amended independent Claim 44 is directed to a circuit component comprising a substrate and a semiconductor chip over a top surface of said substrate. The semiconductor chip has a front surface facing said top surface of said substrate and a back surface opposite said front surface. The semiconductor chip comprises multiple pads at said front surface. An identity of product is directly on said back surface of said semiconductor chip. Multiple metal bumps are between said multiple pads of said semiconductor chip and said top surface of said substrate. An optically transparent colored encapsulation layer is vertically over said identity of product. The

identity of product is visible through said optically transparent colored encapsulation layer as laser radiation is directed through said optically transparent colored encapsulation layer upon said identity of product, and wherein said identity of product in combination with the color of said optically transparent colored encapsulation layer represents an identification of said semiconductor chip.

Amended independent Claim 61 is directed to a circuit component comprising a substrate and a semiconductor chip over a top surface of said substrate. The semiconductor chip has a front surface facing said top surface of said substrate and a back surface opposite said front surface. The semiconductor chip comprises multiple pads at said front surface. An identity of manufacturer is directly on said back surface of said semiconductor chip. Multiple metal bumps are between said multiple pads of said semiconductor chip and said top surface of said substrate. An optically transparent colored encapsulation layer is vertically over said identity of manufacturer, wherein said identity of manufacturer is visible through said optically transparent colored encapsulation layer as laser radiation is directed through said optically transparent colored encapsulation layer upon said identity of manufacturer, and wherein said identity of manufacturer in combination with the color of said optically transparent colored encapsulation layer represents an identification of said semiconductor chip.

Amended independent Claim 65 is directed to a circuit component comprising a substrate and a semiconductor chip over a top surface of said substrate. The semiconductor chip has a front surface facing said top surface of said substrate and a back surface opposite said front surface. The semiconductor chip comprises multiple pads at said front surface. A bar code is directly on pads of said semiconductor chip and said top surface of said substrate. An optically transparent colored encapsulation layer is vertically over said bar code, wherein said bar code is visible through said optically transparent colored encapsulation layer as laser radiation is directed through said optically transparent colored encapsulation layer upon said bar code, and wherein said bar code in combination with the color of said optically transparent colored encapsulation layer represents an identification of said semiconductor chip.

The applied references, either alone or in combination, are not seen to teach or suggest the foregoing combination of features of each of independent Claims 44, 61, and 65.

The Office Action refers to Coico for teaching many features of Claim 44, with the exception of the “an identity of product directly on said back surface of said semiconductor chip

and an optically transparent colored layer vertically over said identity of product,” as recited in independent claim 44. The Office Action also does not allege that Coico discloses “said identity of manufacturer,” as recited in independent claim 61, and “said bar code,” as recited in independent claim 65, along with their respective optically transparent layers. See Office Action, p. 3.

The Office Action then relies on Shaw to allegedly teach “an identity of product directly on said back surface of said semiconductor chip and an optically transparent colored layer vertically over said identity of product.” See Office Action, p. 3.

Applicants submit that the index code 312 of Shaw is not actually an identity of product, an identity of manufacturer or a bar code, but is instead a dotted line code. See Shaw, c. 13, ll. 60-66. In Shaw, a clear protective coat 326 is provided over the etched ink surface 325. However, Shaw is not seen to disclose or suggest that clear protective coat 326 is an optically transparent colored encapsulation layer as in Claim 44. Nowhere is Shaw seen to disclose that protective coat 326 is a colored material, or that a laser radiation is directed through a colored material protective layer to make said index code 312 readable. Shaw discloses that a laser might be used to emit a beam of ultraviolet or infrared light 334 onto the etched ink surface 325 which is deflected to CCD code reader 330 to read the identification information from index code 312. See Shaw, c. 14, ll. 28-34. However, Shaw is not seen to disclose that a laser is passed through a colored protective material to the index code.

Additionally, Shaw is not seen to disclose or suggest the amended features that “said identity of product in combination with the color of said optically transparent colored encapsulation layer represents an identification of said semiconductor chip.” Shaw is only seen to disclose a transparent clear coat 326, and is not seen to teach that coat 326 can be colored and that the specific color of said coat 326, in conjunction with said index code of Shaw, can represent an identification of the chip. The Office Action asserts that “the use of colorants and dyes are well known and conventional in the art.” See Office Action, p. 4. Applicants submit that the amended feature that ““said identity of product in combination with the color of said optically transparent colored encapsulation layer represents an identification of said semiconductor chip” is a specific functional feature of Claim 44 and is not taught or suggested in

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Shaw or in the other applied references. Amended independent Claims 61 and 65 have similar features as discussed above with regard to amended independent Claim 44.

Accordingly, in view of the above, amended independent claims 44, 61, and 65 are believed to be allowable over the applied references. Reconsideration and withdrawal of the rejection of independent claims 44, 61, and 65 are respectfully requested.

The other claims currently under consideration in the application are dependent from their respective independent claims discussed above and therefore are believed to be allowable over the applied references for at least similar reasons. Because each dependent claim is deemed to define an additional aspect of the invention, the individual consideration of each on its own merits is respectfully requested.

The absence of a reply to a specific rejection, issue, or comment does not signify agreement with or concession of that rejection, issue, or comment. In addition, because the arguments made above may not be exhaustive, there may be other reasons for patentability of any or all claims that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment or cancellation of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment or cancellation.

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CONCLUSION

In view of the amendments and remarks set forth herein, Applicant submits that the application is in condition for allowance and respectfully requests a notice to this effect. Should the Examiner have any questions, please call the undersigned at the phone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 502624 and please credit any excess fees to such deposit account.

Respectfully submitted,

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